



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

SEP 28 1992

Ref: 8HWM-FF

Mr. Frazer Lockhart
U.S. Department of Energy
Rocky Flats Office
P.O.Box 928
Golden, Colorado 80402-0928

RE: Review of Draft Technical Memorandum Number 2,
Addendum to Final Phase I RFI/RI Work Plan, Surface Geophysical Surveys,
Rocky Flats Plant Woman Creek Priority Drainage - Operable Unit Number 5

Dear Mr. Lockhart:

EPA has reviewed the Draft Technical Memorandum Number 2, Addendum to the Final Phase I RFI/RI Work Plan for Operable Unit 5 (OUs). In general, the memorandum was found to be redundant of tasks previously performed by EG&G. However, the basic program is sound and is responsive to the requests and concerns regarding the Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) and remedial investigation (RI) work plans the Environmental Protection Agency (EPA) has presented since 1990. The following three comments describe areas where the memorandum could be improved.

1. General. Several of the tasks described have already been performed by EG&G. These include air photo analysis, ground truthing of the analysis, and staking of the inferred trench locations. The original purpose of the request for geophysical surveys was to confirm the locations of the trenches. Previous site visits by EPA have indicated that the locations of the trenches cannot be confirmed visually from the ground. Therefore, further extensive air photo and ground truthing activities should not be required before the geophysical survey is conducted. This will prevent extreme redundancy of tasks and may eliminate costs and delays associated with the investigation.
2. Section 1.2, Page 4 and 5. The first paragraph states the use of the geophysical techniques will be considered for contingent implementation at IHSSs 133.1 through 133.6, based on the results of aerial photography review and the in situ high purity germanium (HPGe) gamma survey. As stated in numerous scoping meetings, the geophysical survey should be conducted regardless of the results from these other tasks. Redundant air photo review has not confirmed the trench locations with known accuracy, and further review will not be likely to enhance this accuracy. Additionally, the gamma survey is unlikely to detect radionuclides if a significant thickness of clean soils overlies the trenches. A clean soil cover of 1 foot, if damp, would likely shield any underlying radionuclides in the trenches. As previously explained to EG&G on October 29, 1990, regarding the gamma survey at IHSS 115 (Old Landfill), the depth of detection for americium would likely be less than 3.5 centimeters. Therefore, the gamma survey could easily miss radionuclides in a trench if clean soils were used as cover. Because of these facts, the geophysical survey of the ash pit area should be

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conducted regardless of the results of these other surveys. It may be the only investigative procedure that can successfully locate these pits.

3. Section 2.1.1, Page 7, Second Paragraph. Because the area of the landfill was not geologically mapped before dumping began, and has not been drilled through, any cross sections are speculative. Therefore, the presence of permeable alluvium or colluvium, or the lithology of the Arapahoe formation underlying the landfill is currently speculative also. Analysis of the dip angle and trends of the Arapahoe number 3, 4, and 5 sandstones indicate the possibility that one or more of these relatively permeable lithologies subcrop (underlie) the landfill. If this is the case, leachate flow could take a different direction than stated. This section should recognize this possibility.

The program presented should improve the investigation substantially. The only major concern is the "soft" language about applying the survey to the ash pit area, Individual Hazardous Substance Sites (IHSSs) 133.1 through 133.6. The survey must be performed in this area. Section 1.2 of the memorandum suggests the survey may not be performed if the gamma and air photo tasks do not show indications of the trenches. Because of the reasons provided in specific comment 2, this would be a poor idea. With this exception, EPA believes the technical approach is acceptable, and will be approved pending inclusion of the ash pits into the geophysical investigation and adequate response to the enclosed State of Colorado comments. If you need further clarification or have questions, please call me at 294-1134.

Sincerely,

Martin Hestmark

Martin Hestmark, Manager
Rocky Flats Project

Enclosure

cc: Gary Baughman, CDH